What is claimed is:

1. A method of replicating content data stored on a first server to at least one second server, comprising the steps:

determining unused bandwidth on a common link of an access data network, carrying subscriber traffic and over which the first server and the at least one second server communicate; and

transmitting content data stored on the first server to the at least one second server substantially on the determined unused bandwidth.

2. The method of claim 1, wherein said at least one second server comprises a server located in a vertical services domain proximate to at least one end user terminal.

3. The method of claim 2, wherein the vertical services domain is located in a central office that provides Digital Subscriber Line (DSL) service to the at least one end user terminal.

4. The method of claim 2, wherein:

the first server is a local content server; and

said at least one second server comprises a central content server.

5. The method of claim 4, wherein:

the local content server is located in a central office that provides Digital Subscriber Line (DSL) service to the at least one end user terminal; and

the central content server is located in a hub site.

6. The method of claim 1, comprising the further steps of:

storing the content data transmitted to the at least one second server on the at least one second server; and

transmitting the content data stored on the at least one second server to at least one end user terminal proximate to the at least one second server.

7. The method of claim 6, wherein the step of transmitting the content data stored on the at least one second server to the at least one end user terminal comprises the steps of:

transmitting the content data stored on the at least one second server to a data switch proximate to the at least one second server;

integrating the content data transmitted from the at least one second server with other data destined to the at least one end user terminal received at the data switch via the common link; and

distributing the integrated data from the data switch to a link to equipment of the at least one end user terminal via a multiplexer.

8. The method of claim 7, wherein the multiplexer is a Digital Subscriber Line Access Multiplexer (DSLAM).

9. The method of claim 6, wherein the step of transmitting the content data stored on the at least one second server to the at least one end user terminal proximate to the at least one second server comprises the steps of:

provisioning a logical communication circuit extending from the at least one end user terminal through the network to a communication access node coupled to a first network domain, at least a portion of the logical communication circuit extending through the common link, wherein the provisioning comprises defining the logical communication circuit in terms of a layer-2 protocol defining switched connectivity through the network;

at the data switch, examining communicated information in transmissions from the customer premises, for a protocol encapsulated within said layer-2 protocol, to distinguish transmission types;

forwarding each detected transmission of a first transmission type from the data switch to the communication access node over the logical communication circuit defined in terms of the layer-2 protocol; and

forwarding each detected transmission of a second type, different from the first transmission type, to a second network domain logically separate from the first network domain, wherein the at least one second server is coupled to the second network domain to receive at least one transmission of a second type for control of the step of transmitting the content data stored on the at least one second server to at least one end user terminal proximate to the at least one second server.

10. A method as in claim 9, further comprising the steps of:

receiving first downstream transmissions intended for the at least one end user terminal at the data switch, over the logical communication circuit from the first network domain;

receiving second downstream transmissions intended for the at least one end user terminal from the second network domain at the data switch, content data from the at least one second server; and

inserting the second downstream transmissions into the logical communication circuit, to combine the first and second downstream transmissions for communication over the logical communication circuit from the data switch to the at least one end user terminal.

11. A method as in claim 10, wherein the logical communication circuit comprises an asynchronous transfer mode (ATM) permanent virtual circuit (PVC).

12. The method of claim 1, wherein a part of the bandwidth of the common link is reserved for transmitting the content data stored on the first server to the at least one second server, to prevent the loss of a session between the first server and the at least one second server.

13. The method of claim 1, wherein the steps of determining unused bandwidth and transmitting content data utilize priority and queuing in at least one node of the access data network, to implement a minimum bandwidth and provide additional bandwidth as available on the common link, for the transmitting of the content data over the common link.

14. The method of claim 1, wherein the steps of determining unused bandwidth and transmitting content data implement a congestion mechanism to prevent data loss and utilize unused bandwidth.

15. The method of claim 14, wherein the congestion mechanism comprises Transmission Control Protocol (TCP).

16. The method of claim 1, wherein the transmitting step utilizes an unspecified bit rate service through the common link.

17. The method of claim 1, wherein the common link of the network also carries logical circuits for wide area data communications of a plurality end user terminals.

18. A software product for replicating content data stored on a first server to at least one second server, said software product comprising:

at least one machine readable medium; and

programming code, carried by the at least one machine readable medium, for execution by at least one computer, wherein the programming code comprises:

a congestion mechanism for determining unused bandwidth on a portion of a common link of an access data network, carrying subscriber traffic and over which the first server and the at least one second server communicate; and

a first transmitting mechanism for causing transmission of content data stored on the first server to the at least one second server substantially on the determined unused bandwidth.

19. The software product of claim 18, wherein the congestion mechanism comprises Transmission Control Protocol (TCP).

20. The software product as in claim 19, wherein the first transmitting mechanism is for causing the transmission of content data using an unspecified bit rate service.

21. The software product as in claim 18, wherein the first transmitting mechanism comprises means for prioritizing and queuing traffic for transport over the common link, including the content data, so as to provide a minimum guaranteed bandwidth and additional bandwidth as-available, for the transport of the content data.

22. The software product of claim 18, wherein the programming code comprises a second transmitting mechanism for causing the transmission of the content data stored on the at least one second server to at least one end user proximate to the at least one second server.

23. The software product of claim 22, wherein the second transmitting mechanism:

causes transmission of the content data stored on the at least one second server to at least one ATM switch, wherein the at least one ATM switch is proximate to the at least one second server, and the at least one ATM switch is an endpoint of the common link;

causes integration of the content data transmitted from the at least one second server with data destined to the at least one end user, at the ATM switch; and

causes the distribution of the integrated data to the at least one end user via a multiplexer.

24. The software product of claim 18, wherein a part of the bandwidth of the common link between the first server and the at least one second server is reserved for transmitting the content data stored on the first server to the at least one second server to prevent the loss of a session between the first server and the at least one second server.

25. An access data network, for providing access services to at least two different network domains, comprising:

a communication access node coupled to a first network domain;

a central content server for storing content data coupled to the communication access node;

a plurality of digital subscriber line transceivers coupled to network ends of subscriber lines, for data communication with transceivers coupled to customer premises ends of respective subscriber lines;

an access switch coupled for data communication with the digital subscriber line transceivers, for receiving data from customer premises equipment via respective ones of the digital subscriber line transceivers and for supplying data intended for transmission to predetermined customer premises equipment to the respective ones of the digital subscriber line transceivers;

a high-speed data link between the access switch and the communication access node;

a layer-2 protocol logical communication circuit provisioned through the access switch and the high-speed data link for each subscriber line, wherein each logical communication circuit is provisioned to extend from a respective customer premises to the communication access node;

a second network domain coupled locally to the access switch;

a local content server for storing content data coupled to the second network domain; and

a logical communication circuit for content distribution between the central content server and the local content server provisioned through the access switch and the high-speed data link, the provisioning of the logical communication circuit for content distribution enabling communication of content data between the communication access node and the access switch over bandwidth unused by traffic on the layer-2 protocol logical communication circuits.

26. An access data network as in claim 25, further comprising:

a controller associated with the access switch, for examining communicated information in transmissions from respective customer premises, for a protocol encapsulated within said layer-2 protocol, to distinguish transmission types, and in response to cause the switch to:

forward each detected transmission of a first transmission type to the communication access node over a respective one of the logical communication circuits defined in terms of the layer-2 protocol;

forward each detected transmission of a second type, different from the first transmission type, to the second network domain;

receive first downstream transmissions intended for one customer premises from the communication access node, over a respective logical communication circuit;

receive second downstream transmissions intended for the one customer premises from the second network domain, wherein content stored on the local content server is transmitted to the one customer premises over at least some of the second downstream transmissions; and

insert the second downstream transmissions into the respective logical communication circuit, to combine the first and second downstream transmissions for transport via one of the digital subscriber line transceivers which serves the one customer premises.

27. An access data network as in claim 26, wherein each of the logical communication circuits comprises an Asynchronous Transfer Mode (ATM) permanent virtual circuit (PVC).

28. An access data network as in claim 26, wherein said controller comprises means for distinguishing between types of local area network protocol transmissions encapsulated within said layer-2 protocol.

29. An access data network as in claim 29, wherein the first transmission type comprises a type of the local area network protocol adapted for internetwork service provider applications.

30. An access network as in claim 29, wherein:

the local area network protocol comprises an Ethernet protocol, and

the first transmission type comprises point-to-point protocol over Ethernet.

31. An access data network as in claim 25, wherein the access switch comprises a router.

32. An access data network as in claim 25, wherein the provisioning of the logical communication circuit for content distribution assigns unspecified bit rate service thereto with an associated minimum service guarantee.

33. An access data network as in claim 25, wherein each of the logical communication circuits comprises a virtual circuit.

34. An access data network as in claim 25, wherein the access switch comprises an Asynchronous Transfer Mode (ATM) switch.

35. An access data network as in claim 25, wherein:

the digital subscriber line transceivers comprise asymmetrical digital subscriber line (ADSL) terminal units (ATUs);

the network further comprises a multiplexer providing data communications coupling between the ATUs and the access switch; and

the ATUs together with the multiplexer form a digital subscriber line access multiplexer (DSLAM).

36. An access data network as in claim 25, wherein at least one of the digital subscriber line transceivers is adapted for communication over an optical link.

37. An access data network as in claim 25, wherein at least one of the digital subscriber line transceivers is adapted for communication over a wireless link.

38. An access data network as in claim 25, wherein at least one of the digital subscriber line transceivers is adapted for communication over a telephone line.

39. An access data network, for providing a combination of wide area internetwork access service and vertical communication services, comprising:

a hub data switch connected to a coupling to the wide area internetwork;

a central content server coupled for data communication via the hub data switch;

a plurality of digital subscriber line transceivers coupled to network ends of subscriber lines, for data communication with transceivers coupled to customer premises ends of respective subscriber lines;

a multiplexer coupled to the digital subscriber line transceivers, for receiving data from customer premises equipment via respective ones of the digital subscriber line transceivers and for supplying data intended for transmission to predetermined customer premises equipment to the respective ones of the digital subscriber line transceivers;

an access switch coupled to the multiplexer;

a high-speed data link between the access switch and the hub data switch;

a vertical services network coupled locally to the access switch;

a local content server coupled for data communications via the vertical service network; and

a logical circuit between the central content server and the local content server for transport of content data between the servers, wherein provisioning associated with the logical circuit in the hub data switch or in the access switch allocates otherwise available bandwidth to the logical circuit within the high-speed data link between the access switch and the hub data switch when not otherwise used by customer traffic.

40. An access data network as in claim 39, wherein the logical circuit comprises at least one Asynchronous Transfer Mode (ATM) permanent virtual circuit (PVC).

41. An access data network as in claim 40, wherein the at least one ATM PVC is provisioned to provide a guaranteed minimum bandwidth in combination with unspecified bit rate service for the logical circuit within the high-speed data link.

42. An access data network as in claim 39, wherein provisioning for the logical circuit in at least one of the access switch and the hub data switch defines a priority for the transport of content data between the servers to implement the allocation of the otherwise available bandwidth to the logical circuit within the high-speed data link.

43. An access data network 42, wherein the priority defined by the provisioning for the logical circuit in at least one of the access switch and the hub data switch also implements a minimum guaranteed bandwidth for the logical circuit within the high-speed data link.

44. An access data network as in claim 39, further comprising:

a respective subscriber logical communication circuit provisioned in terms of a layer-2 routing protocol through the access switch and the high-speed data link, for each subscriber line to the subscriber to the hub data switch:

means associated with the access switch for examining communicated information in transmissions on the subscriber logical communication from each respective customer premises, for protocol layers higher than the layer-2 routing protocol, to distinguish transmission types;

wherein:

the access switch routes each detected transmission of a first transmission type, received from a customer premises via the respective subscriber logical communication circuit on the respective line, over the respective subscriber logical communication circuit on the high-speed data link to the hub data switch, and

the access switch extracts each detected transmission of a type other than the first transmission type from the respective the logical communication circuit for routing to the vertical services network.

45. An access data network as in claim 39, further comprising another vertical services network coupled locally to the hub data switch, wherein the central content server is coupled to the logical communication circuit via the other vertical services network and the hub data switch.

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